ISSN 2522-6398 Vol. 6, Issue 23: 57-62, DOI: 10.25236/FER.2023.062310

Effectiveness of Blended Learning in Aerobics of Higher Vocational Colleges

Yang Juan[1,2,a,*], Gemma M. Perey[1,b]

[1]*College of Teacher Education, University of the Cordilleras, Baguio, Benguet, Philippines*
[2]*Shijiazhuang Preschool Teachers College, Shijiazhuang, Hebei, China*
[a]*270227789@qq.com*, [b]*gmperey@uc-bcf.edu.ph*
[*]*Corresponding author*

Abstract: *Blended learning method is a new method that not only helps students accumulate more details and focus on learning but also effectively makes up for the need for more time and space in traditional teaching, giving students more opportunities for independent learning. This paper discusses the blended learning method of offline practice and online "superstar pass" platform in the Aerobics Classroom of higher vocational colleges and uses a variety of effective countermeasures to carry out practical application and exploration from the aspects of teaching strategy, teaching evaluation, and teaching resources. The study's findings reveal that students prefer concise teacher-made teaching videos and diverse evaluations in the blended teaching of aerobics. Applying a platform on the blended teaching centerline can promote students' autonomous and exploratory learning. It can effectively help students master technical movements and skills, thereby improving learning effectiveness and teaching quality.*

Keywords: *Higher vocational colleges, blended learning, aerobics, effect*

1. Background

In the digital age, the digital technology represented by the new generation of Internet technology has reduced the cost of information dissemination, and students can easily obtain many high-quality teaching resources through the Internet. In this context, "teaching" and "learning" have new-era connotations. On February 13, 2023, Mr. Huai Jinpeng, Minister of Education of China, pointed out in his keynote speech, "Digital Transformation and the Future of Education," at the World Digital Education Conference that digital transformation is an important carrier and direction of education transformation worldwide. The Chinese government attaches significant importance to developing digital education and regards it as an essential part of digital China. After years of continuous efforts, China's education informatization has achieved leapfrog development. The cross-border integration of sports and digitalization is driving physical education teaching mode reform. Sports carry the dream of national prosperity and rejuvenation and assume the educational function of cultivating the all-round development of youth morality, intelligence, physical fitness, the United States, and labor, so colleges and universities need to train healthy college students through sports (Li, 2019). Among all sports, aerobics is one of the most popular sports among college students. It is an active sport for college students to participate in sports activities in China. Aerobics is also a sports course with many participants and multiple classes (Liu, 2018).

This study has significant practical and theoretical significance in exploring the influence of mixed teaching on aerobics classroom teaching in higher vocational colleges. Taking blended teaching as the main line to study the aerobics classroom effect in higher vocational colleges not only conforms to the development trend of education modernization but also contributes to the orderly development of aerobics curriculum sports items. To meet the requirements of aerobics teaching, and under the background of the national education reform situation, digital means such as intelligence and science and technology are introduced into the aerobics teaching classroom in higher vocational colleges in the way students like.

2. Literature review

2.1 Blended Teaching

Since 2000, blended Teaching has attracted the attention of scholars and practitioners both

ISSN 2522-6398 Vol. 6, Issue 23: 57-62, DOI: 10.25236/FER.2023.062310

domestically and internationally. The most representative example is the definition by the Sloan Consortium in the United States: "Blended teaching is a combination of face-to-face and online teaching, which combines a certain proportion of online and face-to-face teaching in teaching content. After 2007, with the development of research and practice, the definition of blended teaching gradually became clearer. The Sloan Alliance has recently revised its definition of blended teaching. According to the new definition, only if 30% to 79% of teaching content is presented online can it be referred to as blended teaching. Means et al. (2013) defined it as "over 25% of the teaching content in the assessment section adopts online teaching".

With the rapid development of the Internet and Mobile technology, especially the arrival of the "Internet plus" era, blended teaching has also seen new development since 2013. Blended teaching has evolved from a mixture of online and face-to-face teaching to a teaching context that combines mobile communication devices, online learning environments, and classroom discussions (Wasoh F., 2016). At this stage, the blended teaching concept strongly focuses on being student-centered. Goodyear 2015 pointed out that blended teaching is a mixture of face-to-face and online teaching and teaching and coaching methods in a student-centered learning environment. Chinese scholar (Li, 2016) believes that blended teaching refers to a teaching method that, at the appropriate time, through the application of appropriate media technology, provides resources and activities that are compatible with the appropriate learning environment, enables appropriate students to develop appropriate abilities, and thus achieves optimal teaching results.

2.2 Blended learning

Blended learning is developed based on E-learning. It combines the advantages of face-to-face and online learning and is conducive to cultivating students' autonomous, inquiry, and Collaborative learning abilities. Curtis J. Bonk (2009) believes that blended learning is a combination of face-to-face learning and computer-assisted online learning; Margaret Driscoll 2013 believes that blended learning is a learning approach that combines multiple networked technologies, teaching methods, and face-to-face teacher guidance; Chinese scholar He Kekang (2004) believes that blended learning is to combine the advantages of traditional learning methods and online learning. It should not only reflect the leading role of teachers in the teaching process but also reflect the initiative of students in the learning process; Du S (2016) summarized the connotation of blended learning as blended learning is a learning mode that combines the advantages of traditional classroom learning and online learning. It includes mixing multiple operating modes, teaching equipment, curriculum content and resources, learning strategies and evaluation methods, synchronous learning, and asynchronous learning. The key to blended learning is to achieve optimal learning outcomes through blending.

2.3 Aerobics

Aerobics is a kind of sport accompanied by music, taking physical exercise as the basic means and aerobic exercise as the basis to improve health, shape the body and entertain body and mind. It is competitive, entertaining, and entertaining. Aerobics integrates health, strength, and beauty, which can improve the function of the human cardiovascular system, enhance the ability of the respiratory system, and facilitate the normal operation of the digestive system; At the same time, aerobics brings the beauty of the body and confidence and also improves the ability of people to appreciate and create beauty (Liu, 2018). Aerobics was carried out earlier in colleges and universities, and the development of higher vocational sports was relatively slow compared with colleges and universities.

3. Research Method

This study uses quantitative research methods and a questionnaire survey to understand the effectiveness of blended learning in aerobics classes. This study uses the weighted average method to analyze the statistical results on the level of effectiveness of Aerobics blended learning. The Likert four-level scale will obtain the weighted average value with the following scale. This makes the findings easier to quantify and statistically process, analyze, and interpret.

According to the questionnaire results, researchers can use qualitative research methods to interview students to understand the current situation of the aerobics blended learning class. This paper takes the blended learning effect of aerobics classrooms in higher vocational colleges as the research theme. It selects students from Shijiazhuang Institute of Information Engineering and Shijiazhuang Preschool

ISSN 2522-6398 Vol. 6, Issue 23: 57-62, DOI: 10.25236/FER.2023.062310

Teachers College to investigate and study. These two schools are in Shijiazhuang, Hebei Province. Both belong to higher vocational and technical schools. The second grade offers blended teaching of aerobics. To determine the effectiveness of blended aerobics classroom teaching, 4,811 sophomore students from the two schools in 2021 were selected by random sampling method, and the formula n=N/1+(N*0.252) was used to select 370 students for the questionnaire survey. The form of questionnaire distribution is online data collection on the "Questionnaire Star" platform.

4. Data analysis

Three hundred seventy (370) questionnaires were sent out, 370 questionnaires were retrieved, and 370 valid samples were collected. From Table 1, it can be concluded that the reliability coefficient value of the research data is higher than 0.9, which comprehensively indicates that the data has a high-reliability quality and can be used for further analysis. Table 2 shows that using KMO and Bartlett's test for validity verification: the KMO value is 0.955, and the KMO value is greater than 0.8. The research data is very suitable for extracting information (indicating good validity from the side view).

Table 1 Reliability Analysis - Simplified Format

Cronbach Reliability Analysis - Simplified Format		
Number	sample capacity	Cronbach α
15	*370*	*0.942*

Table 2 Validity analysis results

KMO and Bartlett's test		
KMO		0.955
Bartlett sphericity test	Approximate chi-square	4441.439
	df	105
	p-value	0.000

4.1 Teaching Strategies

Table 3 Level of Effectiveness of Blended Learning in Aerobics Along Teaching Strategies

content of a project	**average value**	**Description**
1. Blended learning of online aerobic short videos that help practice offline technical movements.	3.376	Very Effective
2. Watching online aerobic videos that stimulate students' enthusiasm for learning.	3.319	Very Effective
3. Blended learning of aerobic short videos that enrich the classroom learning atmosphere.	3.292	Very Effective
4. Submitting video homework online that consolidates the mastery of skill movements.	3.216	Effective
5. Using the "network platform" in arranging learning time.	2.854	Effective

In teaching strategies, teachers make efforts and improvements in pre-class preparation, in-class learning, post-class review, and offline consolidation of technical exercises, effectively integrating online platforms, especially video teaching and offline practice. The analysis of the questionnaire data in Table 3 shows that online multiple evaluations are targeted and highly effective in helping students. Online diversified evaluation includes one-on-one guidance and evaluation from teachers and communication and feedback from students, effectively achieving targeted guidance and assistance.

Blended teaching can effectively promote students' practical practice of aerobics techniques and improve their learning efficiency. In offline practical classrooms, there may be situations where one teacher teaches, and the class capacity is large, which cannot accommodate all students. Online videos can be played anytime and anywhere, with fast-in and slow-out options. For forgotten and confused aerobics technical movements, online videos can receive timely feedback, which is helpful for students learning.

In addition, it was found from the data that the video preview on the front line of the class was more effective. Through interviews and exchanges, it was learned that students had a heavy academic workload during the second year of the school year. Some students stated they had tight academic time before class and did not participate in advance previewing.

ISSN 2522-6398 Vol. 6, Issue 23: 57-62, DOI: 10.25236/FER.2023.062310

4.2 Assessment

Table 4 Level of Effectiveness of Blended Learning in Aerobics Along Teaching Assessment

content of a project	average value	Description
1. Blending online and offline teaching which encourages students to learn independently and reflect on their progress.	3.330	Very Effective
2. Online and offline blended learning multiple evaluations that are very meaningful.	3.303	Very Effective
3. Online and offline blended learning aerobic activities that are reasonable and practical.	3.241	Effective
4.Online platform teaching that promotes the mastery of aerobic movement techniques.	3.205	Effective
5. Blending online and offline teaching that promotes diverse learning opportunities.	3.195	Effective

In teaching evaluation, teachers analyze teaching activities' arrangement, evaluation, and timeliness. The questionnaire data in Table 4 shows that combining aerobics teaching videos with practical exercises can effectively promote students' self-directed learning and reflection. Online videos are not limited by time and space and are easy to operate, which can effectively help students practice and practice. At the same time, online teaching videos can better solve problems such as teacher shortages, inadequate venue equipment, and environmental facilities, fully utilizing teaching resources, which has an essential impact on promoting the sustainable development of aerobics course teaching.

The diversified evaluation in blended curriculum teaching increases the interaction between students and teachers, creates a learning atmosphere, makes students happy to learn, and effectively promotes students' learning. In terms of evaluation methods, data from online desktop and mobile APP teaching platforms can be used for evaluation at any time, and phased evaluation and rolling dynamic evaluation can also be carried out based on the progress of course teaching. Process-based tracking evaluation can help students grow, consolidate, and enhance their technical skills.

4.3 Resources

To actively improve the quality of blended learning in aerobics in vocational colleges, multiple online platforms and video resources were selected for classroom teaching in the dimension of teaching resources. The questionnaire data analysis in Table 5 shows that the teacher's self-made video (5-15 minutes) is simple, straightforward, and highly effective for students to practice independently. The teacher's self-made video, including key lesson content prompts, has positive and back-action demonstrations. Regarding turning direction, there are side-action demonstrations and slow-action voice prompts. The teacher's self-made videos are simple, straightforward, and practical, which will meet the needs of students and are extremely helpful for their practical action learning.

Table 5 Level of Effectiveness of Blended Learning in Aerobics along Teaching Resources

content of a project	average value	Description
1. Using teacher-made videos (5-15 minutes) that facilitate learning.	3.400	Very Effective
2. Utilizing Open online platforms that support students' independent and inquiry learning.	3.335	Very Effective
3. Utilizing various online resources for blended teaching that have a positive impact on skill improvement.	3.303	Very Effective
4. Using Aerobic competition videos (3-10 minutes) that enhance learning.	3.181	Effective
5. Using CD-ROM videos (30-50 minutes) that are helpful for learning.	3.124	Effective

The application of open network platforms in the blended teaching of aerobics has effectively promoted students' autonomous learning and exploratory learning. In the classroom, teachers encourage students to learn from multiple platform resources, such as the MOOC platform, cloud vocational education platform, and “ZhiHuiyun” platform. These platforms include both aerobics course content and other subject course content. This is rooted in the strong construction of online courses in China. In November 2020, China launched the first batch of 5118 national first-class undergraduate courses, including 868 mixed online and offline first-class courses. The coexistence of multiple disciplines on the platform effectively facilitates students' autonomous learning.

The textbook is accompanied by a CD video (30-50 minutes) with standardized and specific content,

ISSN 2522-6398 Vol. 6, Issue 23: 57-62, DOI: 10.25236/FER.2023.062310

which is convenient for students to understand the aerobics course and is more effective. Students have a heavy academic workload, and for long-term video materials, they may choose to watch them or seek help from peers instead of watching videos.

5. Conclusions and Suggestions

5.1 Adjust the teaching strategy and improve the teaching effect

Multi-level and diversified evaluation stages are designed for pre-class preparation, in-class learning, and post-class consolidation. For example, there are evaluation contents for each attendance, online video learning participation, online platform learning communication, offline practice (state engagement, participation in collaboration, and enthusiasm for practice), group competitions, and school-level competitions. The purpose is to encourage more students to participate in the exercise of fitness and aerobics, stimulate their passion for learning and perseverance, and cultivate lifelong physical fitness habits. It is particularly pointed out that in face-to-face teaching, teachers can upload videos of grouped and layered exercises to the platform, and teachers and students can communicate collectively for classroom feedback, which significantly stimulates everyone's active participation. It should be noted that the task volume of online platform homework needs to be considered for students' time and technical level. It is essential to avoid demanding high-difficulty and extensive task volume homework; students may complain about wasting too much energy and time.

5.2 Use teaching evaluation to improve teaching quality

It is essential to prioritize ongoing supervision and improvement of teaching quality by utilizing teaching evaluations. Improving interaction on online platforms, facilitating teacher-student communication, and encouraging feedback can positively impact students' learning. In the skill-testing section, some students prefer the form of an online presentation. If students record the consolidated aerobics skills and actions after practice into small videos and submit them to the platform, teachers and other students can appreciate and communicate, which is extremely helpful for improving aerobics skills. However, we need to pay attention to the frequency and difficulty of the testing process, as some students may express time constraints due to high academic pressure.

5.3 Develop teaching resources and promote blended teaching

Students love short videos that are simple, clear, and effective, especially those with instructional tips and analysis of critical and challenging points. While producing teaching videos, teachers can prepare various aspects such as video visuals, teacher explanations, subtitles, soundtracks, and special effects, effectively improving the quality of the videos. In addition, it is recommended to write school-based textbooks and manuals for aerobics, including action instructions, demonstration pictures, and exercise guides which are concise and concise. It can effectively assist students in practical learning.

In short, in constructing blended teaching courses for aerobics, we should recognize the positive significance of practical teaching. Online video teaching assists practical teaching, and we should actively develop online platforms and resources to serve practical teaching. Primarily, it is best to adapt to local conditions and individual differences and choose the one that suits the needs of the teaching audience.

References

[1] Li Dandan (2019). Research on online and offline blended learning methods based on "Internet plus". Communication World. 3. P. 209–210.
[2] Liu Yuci (2018). Investigation and research on aerobics courses for female students in Nanchang higher vocational colleges, published master's thesis. Jiangxi Normal University.
[3] Cheng Shiquan (2017). Research on problems and countermeasures in college micro-class videos. Computer knowledge and technology.
[4] Du Shichun (2017). Research on the realization path and effect evaluation of blended learning under the MOOC background has published a master's thesis. China Agricultural University.
[5] Dong Xu (2022). Research on the online and offline blended learning mode of aerobics - taking Harbin Normal University as an example, has published a master's thesis. Harbin Normal University.

ISSN 2522-6398 Vol. 6, Issue 23: 57-62, DOI: 10.25236/FER.2023.062310

[6] He Kekang (2018). Deep learning: the change of learning methods in the network era. Education Research, 39. P. 111-115.
[7] Huai Jinpeng (2023). Keynote speech at the World Digital Education Conference: Digital Transformation and the Future of Education. China Education News Network.
[8] Bayyat, Manal (2020). Blended Learning: A New Learning Method, Turkiye Online Journal of Distance Education. 21. P. 69–86.
[9] Pan Lifang (2020). Construction of a Teacher Learning Environment Model Supported by Technology. China's Audiovisual Education (10), 115-120.
[10] Liu Jing (2016). Practical research on Blended learning of aerobic aerobics for leisure sports majors. Published master's thesis. Chengdu Sport University.
[11] Bonk C J, Graham C R, Cross J. et al. (2009). The Handbook Of Blended Learning: Global Perspectives, Local Designs [J].Turkish Online Journal of Distance Education.
[12] Allen I E, Seaman J, Garrett R. (2018). Blending in: The Extent and Promise of Blended Education in the United States [EB/OL]. http://sloanconsortium.org/sites/default/files/Blending_In.pd.
[13] Smith P. (2017). Blended Learning: It is Not the Tech; it is How the Tech is Used [EB/OL].https: //www.huffingtonpost.com/en-try/blended-learning-its-not-_b_6165398.html.
[14] Michael Horn, Heather Stark (2015). Blended learning: Driving educational revolution with disruptive innovation [M] Translated by Nie Fenghua and Xu Tieying Mechanical Industry Press
[15] Zheng He (2021). Path selection for community sports in the post epidemic era. Sports Culture Guide (01), 47-53